LIBRARY
ST BARTHOLOMEW'S

LIBRARY
ST BARTHOLOMEW'S

MONTHLY REPORT

ON

THE PROGRESS OF THERAPEUTICS.

Edited for the Edinburgh Medical Journal.

Nos. X. and XI.—June and July 1875.

BY

W. HANDSEL GRIFFITHS, Ph.D., L.R.C.P.E.,

Licentiate of the Royal College of Surgeons of Edinburgh; Lecturer on Medical Chemistry in the Ledwich School of Medicine, Dublin; Corresponding Member of the Therapeutical Society of Paris; Hon. Member of the Colleges of Pharmacy of Ontario and Chicago; Librarian to the Royal College of Surgeons in Ireland.

WELLCOME INSTITUTE
LIBRARY
Coll. WellcOmec
No.

MONTHLY

REPORT ON THE PROGRESS OF THERAPEUTCS.

By W. HANDSEL GRIFFITHS, Ph.D., L.R.C.P. Ed., etc.

Licentiate of the Royal College of Surgeons of Edinburgh; Lecturer on Medical Chemistry in the Ledwich School of Medicine, Dublin; Corresponding Member of the Therapeutical Society of Paris; Honorary Member of the Ontario and Chicago Colleges of Pharmacy, etc.; Librarian to the Royal College of Surgeons in Ireland.

From the Edinburgh Medical Journal for June and July 1875.

Calabar Bean.—Dr J. Crichton Browne (*British Medical Journal*, 24th October 1874) records two cases of general paralysis successfully treated by Calabar bean. The dose usually administered was $\frac{1}{4}$th grain of the extract three times daily.

A very interesting case of traumatic tetanus, occurring in the person of Dr O'Leary, the talented Professor of Materia Medica in the Queen's College, Cork, successfully treated by large doses of Calabar bean, is recorded by Professor Sydney Ringer, in the *Practitioner* for November 1874. The case presents many points of interest, not the least of which is the very large doses of extract of Calabar bean administered. In 86 hours, Dr O'Leary took 140 grains, and of this, 88 grains were taken in 32 hours, that is, $2\frac{3}{4}$ grains per hour. For a short time he took 4 grains per hour. A case is recorded by Dr Eben Watson, in which even this large dose was exceeded.

The details of a case of traumatic tetanus, unsuccessfully treated with extract of Calabar bean, are given by Professor Spence in the *Lancet* for 2d January.

So far back as 1871, Dr W. Monro pointed out in this Journal the probability of Calabar bean being useful in cholera, on account of the power which Dr Fraser has shown it to possess of expanding the peripheral bloodvessels. Dr Monro now publishes in the *British Medical Journal* (31st October 1874) a series of cases illustrating the use of Calabar bean in other diseases in which these bloodvessels are contracted. He has found the drug to give very

satisfactory results in tic douloureux, febricula, bilious remittent fever, and in a case of obstruction of the aortic orifice. Dr Monro is of opinion, that, if the strength of the extract can be relied on, the doses given in the Pharmacopœia are too small for an adult.

Chloral in Puerperal Eclampsia.—M. Fanny, in a recent thesis on this subject, speaks of chloral hydrate as being the best treatment for puerperal eclampsia; he states that it is indicated not only when the attacks are manifest, but also when symptoms suggestive of them arise. M. Charrier also, in a recent paper in the *Annales de Gynæcologie*, speaks in favour of this treatment.

Peculiar Effect of Chloral.—Dr Bjornström has noticed that in patients who have an excitable nervous system, chloral hydrate, when taken for any length of time, produces a tendency to congestion in the head, an effect which is developed from slight causes, as from very small quantities of alcoholic drinks. He suggests as an explanation of the circumstance, that chloral diminishes the tone of the vessels, or paralyzes in a certain degree the vaso-motor nerves.—*Schmidt's Jahrbücher der Gesammten Medicin*, Jan. 1875.

The Combined Administration of Chloral, Morphia, and Atropia.—Prof. Bartholow of Cincinnati recently read a paper on this subject before the New York Neurological Society (*New York Medical Journal*, January). He finds that the effects of atropia last much longer, and are apparently in no way prevented by chloral. Morphia deepens in every way the effects of chloral. Dr Bartholow found from some experiments on himself, that many of the unpleasant effects of morphia are modified as regards the wakefulness, but not as regards the subsequent nausea, vomiting, vertigo, and constipation. When the two agents are administered conjointly, a much less quantity of chloral is necessary in order to produce sleep. These agents act more favourably when given simultaneously. Chloral causes sleep, morphia relieves pain, and atropia prevents or lessens the depression in the respiratory and cardiac movements caused by the other two, while it contributes to their cerebral effects. The combination is indicated in cases of insomnia caused by pain, in hypochondria, mania, etc.; also in cases of fatty or irritable heart. In cases of muscular spasm, in the cramps of cholera, he has found the combination to afford excellent results, and many cases of spasmodic asthma and hay fever have been benefited by this conjoint administration.

The Action of Picrotoxine, and the Antagonism between it and Chloral Hydrate.—In the *British Medical Journal* for March 27, April 3, 10, 17, and 24, Dr J. Crichton Browne has a valuable paper on this subject. The fact that the toxic effects of picrotoxine differ from those of strychnia, in that they are exercised in a greater extent over the cerebral, and to a less extent over the spinal centres, led Dr Browne to anticipate that chloral hydrate

would effectually counteract them, as that agent powerfully diminishes the activity of the brain.

Picrotoxine is the proximate principle of cocculus Indicus. Christison says of it, that it is an active poison, producing chiefly giddiness, staggering, tetanic convulsions, and coma. He adds, that nothing is known of its medicinal properties or actions in small doses, more than that it is beneficial as an external application in scabies, ringworm, and porrigo. Taylor intimates that it gives rise to nausea, vomiting, and griping pains, followed by stupor and intoxication; and he describes one of the few recorded cases in which it proved fatal, and in which these symptoms were present, and extended over a period of nineteen days. Dr Glover describes it as a narcotico-acrid poison that acts on the spinal cord, raises the animal temperature, and causes great congestion at the base of the brain. Dr Roeber of Berlin, who experimented with picrotoxine, and whose researches were published in the *Archiv v. Reichert und Du Bois Reymond*, 1869, found that in frogs a comatose condition is first produced by it, and then a series of tetanic spasms, which by-and-by become clonic. He further demonstrated, that during the stage of clonic spasms, the inspirations are greatly exaggerated, so as abnormally to inflate the lungs, and that the heart's action is rendered slow, and the diastole prolonged. He alleges that the occurrence of spasms could not be prevented by the removal of the cerebrum or optic lobes, but that they never appeared after separation of the medulla oblongata from the medulla spinalis. He infers, therefore, that the spasms are dependent on stimulation of the medulla oblongata, and that the slowness and even stoppage of the heart's action, as well as the inflated condition of the lungs of the frog, are caused by this stimulant action affecting the vagus centre.

The following are the general conclusions which Dr Browne considers may be drawn from his investigations:—1. Chloral hydrate is physiologically antagonistic to picrotoxine in rabbits and guinea-pigs, and will, when administered in a suitable and proportionate dose, save life after a fatal dose of picrotoxine.

2. The antagonism of chloral hydrate to picrotoxine in rabbits and guinea-pigs may be exerted so as to save life, even when it is not administered until fifteen or twenty minutes after the fatal dose of picrotoxine.

3. The antagonism of chloral hydrate to picrotoxine is subject to two limitations: *a.* That the dose of picrotoxine may be so large as to kill before the chloral hydrate has time to operate; *b.* That the dose of picrotoxine may be so large that nothing short of a poisonous dose of chloral hydrate would avail to counteract it.

4. Picrotoxine is to a very limited extent antagonistic to chloral hydrate in rabbits and guinea-pigs, by mitigating the hypnotic effects of the latter upon the brain and higher nervous centres, which it stimulates to activity.

5. The minimum fatal dose of chloral hydrate in the rabbit is 12 grains to each pound of body-weight.

6. Practically no antagonism exists between picrotoxine and chloral hydrate in the cat, nor between strychnia and chloral hydrate.

7. Picrotoxine and chloral hydrate, when administered simultaneously to the cat, cause death by stopping the action of the heart, and not by any destructive or exhausting action upon the supreme nervous centres.

8. Chloral hydrate causes in the cat excitement and restlessness, with motor defects prior to the state of sopor, and its effects upon that animal are protracted to an extraordinary extent.

9. The energy of the action of chloral hydrate, as measured by its minimum fatal dose, is in proportion to the development of the cerebral hemispheres.

The Eruption produced by Bromide of Potassium.—Dr Th. Veiel of Cannstadt publishes, in the *Vierteljahreschrift für Dermatologie und Syphilis*, twelve cases. The patients were all young, and the eruption had the character of acne-papules and pustules, sometimes associated with comedones. Dr Veiel finds that the cutaneous eruption does not depend on any constant quantity of bromide of potassium, or the length of its administration, or on the patient's age, sex, or constitution. He is of opinion that the preference for the scalp and thighs is available as a point of diagnosis between it and ordinary acne. He has failed to detect bromine in the pustules, when it was abundant in the urine.

Bromide of Potassium in the Treatment of Epilepsy.—Dr Otto writes on this subject in the *Archiv für Psychiatrie*, vol. v. No. 1. He concludes that it lowers the excitability of the central ganglia and of the peripheral nerves, and by this means assuages the epileptic attacks. The results are due altogether to the bromine salt. To be efficacious, the dose for an adult must be at least 120 grains. When the dose reaches 180 grains daily, great precautions should be taken. Dr Otto thinks that it is best to commence with a full dose at once. In cases in which the cornua ammonis were found to be affected, the bromide of potassium had been most effectual. The brain symptoms induced by bromide of potassium afford as good a guide for lessening the dose of that drug, as the pulse does for moderating the dose of digitalis. Dr Otto does not fear the induction of any permanent psychic lesion from large doses of the bromide. He advises that it should always be administered well diluted with water.

Goa Powder.—Dr J. F. Da Silva writes to the *Medical Times and Gazette*, 6th March, contending that Goa powder and Araroba or Arariba powder, a remedy popular in Brazil for the treatment of certain cutaneous affections, are identical. The best mode of applying the remedy is as Dr Silva recommends, in the form of ointment

—20 to 40 grains of the powder with ten drops of acetic acid to an ounce of lard.

In the *Pharmaceutical Journal* for 13th March is an interesting paper from the pen of Professor Attfield, on the chemical composition of Goa powder. Professor Attfield prefers Mr Kemp's name of "Chrysarobine," as being more appropriate than the synonymous Bahia powder, Goa powder, etc. He suggests that to the glucoside and the bitter principle of chrysarobine may belong a portion of any medicinal activity possessed by chrysarobine when administered internally. In point of quantity, chrysophanic acid is the chief constituent of chrysarobine. According to Schroff, chrysophanic acid exerts a purgative action weaker than that of rhubarb. Rhubarb contains a considerable quantity of chrysophanic acid, and this acid, with some resins and a bitter principle, are considered to be the conjoint source of the therapeutic properties of rhubarb. Professor Attfield suggests that chrysarobine may possibly be destined to be a rival of rhubarb, as well as an external remedy for ringworm.

We may refer to an interesting paper "On the Identity of Goa powder and Araroba," in the *Pharmaceutical Journal* for 10th April, by Mr E. M. Holmes.

The Action of Veratrum Viride upon the Circulation.—Drs H. C. Wood and Joseph Bereus have lately been investigating this subject. Veratrum viride contains two alkaloids, veratroidia and veridia. Drs Wood and Bereus found that the direct action of veratroidia was to lower the arterial pressure, and this action depends on the influence of the alkaloid on the heart itself. It would seem that retardation of the pulse by veratroidia is due to a stimulant effect upon the inhibitory nerves of the heart.

The following are conclusions deduced:—The action of veratrum viride upon the circulation is altogether subordinate to its influence upon the respiration. In minute doses it stimulates the cardiac inhibitory nerves or nerve-centres, but when given in sufficiently large doses it finally paralyzes the peripheral inhibitory cardiac nerves.

It exerts some action upon the heart-muscle or the contained ganglia; this action is probably a sedative one, but it is very feeble, and is only distinctly perceptible when the drug is precipitated at once upon the heart, or when the dose given is much above that required to arrest respiration. To kill the heart-muscle very large amounts are required. Upon the vaso-motor system veratroidia acts as a depressant, but its influence is feeble, much less intense than its action upon the pneumogastrics. When artificial respiration is maintained, it can be given in such doses as to paralyze the vaso-motor centres.—*Philadelphia Medical Times.*

Therapeutical Action of Veratrolla.—In a paper read before the twenty-second annual meeting of the American Pharmaceutical Association, Mr C. L. Mitchell states that the alkaloid

veratrolla which exists in veratrum viride is a local irritant; an irritant emetic and cathartic; and a powerful nerve and muscle poison, producing death by suspension or paralysis of the muscular substance of the heart. Like the other alkaloids of the same group, it is probably a spinal and motor depressant.

YERBA DEL PERRO.—M. Rabuteau has investigated the action of this new Mexican plant, a specimen of which was sent to him by M. Victor Salet. It belongs to the natural family *Compositæ*, and appears to be highly poisonous, giving rise to symptoms similar to those produced by strychnia, but the convulsions are of a different character. Twelve grains were injected into the veins of a medium-sized dog, and the post-mortem examination revealed congestion of the brain, but not of the spinal cord; the condition of the lungs was normal. The plant causes great dilatation of the pupil.—*Soc. de Biologie*, 5th Dec. 1874.

SALICYLIC ACID.—This substance, which is now attracting so much attention as an antiseptic and disinfectant, has been for some time known to chemists as a constituent of the oil of winter-green (*Gaultheria procumbens*), and of the essential oil of Monotropa Hypopithys, etc. It was not, however, until the publication of Professor Kolbe's paper in the *Journal für Praktische Chemie*, July 1874, that much interest was awakened in the subject.

In the Chemical Section at the recent meeting of the Scientific Congress of Breslau, the exhibition of this new disinfectant formed the chief attraction. It may be made from dry powder of sodium-phenol, by conducting into it dry carbonic anhydride at 170° C. Salicylate of soda is formed, and this is decomposed by hydrochloric acid into sodium chloride and salicylic acid, which is precipitated. A good account of it is given by Dr Squibb, in a paper read by him before the New York Academy of Medicine, and subsequently published in pamphlet form. The acid, bleached or unbleached, occurs in minute broken acicular crystals, giving it the appearance of a granular powder, which is odourless and nearly tasteless, but leaves a sweetish astringent after-taste. It is very slightly soluble in cold water, but very soluble in hot. The presence of neutral salts, as of sodium phosphate, has the power of increasing its solubility in water, three parts of the latter salt causing the solution of one part of the acid in fifty parts of water. It is much more soluble in alcohol and ether than in water. It melts at 125° C., and sublimes at 200° C. It may be used either in the form of powder or in solution. Its advantages over other antiseptics my be thus briefly stated :—

1. It is much more powerful and effective.
2. In quantities necessary for effectiveness, it is wholly devoid of irritant properties.
3. It is as effective against chemical as against vital ferments;

thus it will prevent the production of the volatile oils in mustard and bitter almonds.

4. In effective quantities, it is odourless, almost tasteless, and perfectly harmless.

Dr R. Godeffroy has an interesting paper on the subject of salicylic acid, in the *Zeitschrift des allgemeinen österreichischen Apotheker-Vereines*, April 1875. He states that salicylic acid may be obtained in various ways besides by the method which we have detailed above. It may be prepared by the oxidation of salicin, a glucoside contained in the barks of some species of salix. It may also be got by the oxidation of saligenin, by heating oil of gaultheria with potassium-hydrate, and by decomposing potassium-salicylate by hydrochloric acid. Salicylic acid may be considered to be an oxidation product of benzoic acid, since it contains one atom more of oxygen, thus: $C_7 H_6 O_2$ = benzoic acid, and $C_7 H_6 O_3$ = salicylic acid. It differs from its isomers, oxybenzoic acid and paraoxybenzoic acid, by giving a beautiful violet colour with solution of ferric chloride.

From Dr Godeffroy's experiments it would appear that salicylic acid is three times more powerful in its antifermentative action than carbolic acid. The *London Medical Record*, for 26th May and 2d June, contains a full abstract of Professor Thiersch's paper on the substitution of salicylic for carbolic acid as an antiseptic (Volkmann's *Sammlung Klinischer Vorträge*, Nos. 84 and 85). We should not omit to mention, that Dr C. R. C. Tichborne, so far back as 1872, in a paper read before the Medical Society of the College of Physicians, Dublin, described the physiological action of salicylic acid and its general relation to carbolic acid. In a recent communication (*Medical Press*, 5th May), he suggests for medicinal uses a solution of three grains of the acid in an ounce of warm glycerine. The acid remains permanently dissolved in this menstruum.

WELLCOME LIBRARY INSTITUTE

EDINBURGH: PRINTED BY OLIVER AND BOYD.

Digitized by the Internet Archive
in 2021 with funding from
Wellcome Library

https://archive.org/details/s5303id1397855